

N^o 10,549



A.D. 1901

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Complete Specification Left, 26th Aug., 1901—Accepted, 28th Sept., 1901

PROVISIONAL SPECIFICATION.

“ New or Improved Antiseptic or Detergent ”

I, CHARLES BILLING of 15 Wenham Street, in the City of Liverpool, Chemist, do hereby declare the nature of this invention to be as follows:—

This invention consists in a new antiseptic and process of manufacturing the same.

- 5 The antiseptic is essentially a composite crystal formed of the monoborates of potassium, sodium and ammonium. There are numerous ways of making it. First I add to the ordinary crude boro-calcite or other easily decomposable substance containing boracic acid, caustic potash until there is no further re-action. I then add about 5% of ammonium until the odour of ammonia is very distinct,
- 10 or I take say $67\frac{1}{2}$ parts of 70% caustic soda, and 23 parts of oxide of potassium, (or its equivalent of caustic potash) and from 220 to 250 parts of boiling water. To this I add 382 parts of crystals of borax and stir until the last is dissolved. When sufficiently cool to avoid being disagreeable I add liquid ammonia, and stir it up until the odour of ammonia is distinct. This monoborate of potassium,
- 15 sodium and ammonium acts very strongly as an antiseptic, and to a certain extent as a deodorizer, thus superseding Condry's fluid, and carbolic acid, which are much less convenient. The object of putting potash to the mixture is that without potash it is not sufficiently soluble, but the amount of potash must not be too great or it will cause deliquescence. The advantage of adding the ammonia
- 20 is that this latter prevents the monoborates of potash and soda from absorbing carbonic acid from the air. Another recipe for making the material is as follows;—Add to 3 parts by weight of monoborate of soda 1 part of monoborate of potash in solution, together with about 5% of the weight of the combined mixture in boracic acid and neutralize this boracic acid by adding an excess
- 25 of caustic ammonia, then evaporate to the point of crystallization.

Dated the 20th day of May 1901.

WM. P. THOMPSON & Co.

Of 6 Lord Street, Liverpool, Patent Agents for the Applicant.

COMPLETE SPECIFICATION.

30 **“ New or Improved Antiseptic or Detergent.”**

I, CHARLES BILLING of 15. Wenham Street, in the City of Liverpool, Chemist, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

- 35 This invention consists of a new antiseptic and process of manufacturing the same.

The antiseptic is essentially a composite crystalline material formed of the monoborates of potassium and sodium, with or without ammonium. There

[Price 8d.]

Billing's New or Improved Antiseptic or Detergent.

are numerous ways of making it. It may be made direct from boric acid by neutralizing the latter with equivalent quantities of caustic potash and caustic soda, and adding a little caustic ammonia immediately before crystallizing it. It is made most cheaply however by boiling crude borate of lime, generally known as borocalcite with caustic potash and caustic soda in equivalent quantities; and adding the ammonia as above stated. It is made perhaps most quickly by dissolving caustic potash in hot water, and neutralizing it by adding an equivalent of bi-borate of soda, ordinary borax and boiling this solution down to the crystallizing point when caustic ammonia liquor is added. If the monoborate of potassium and sodium is required for immediate use, or to be kept in bottles, ammonia may not be required, but if it is required to be kept for use or packed in such a way that the atmosphere has access to it, then the addition of about 2% or 3% of its weight of caustic ammonia is requisite. Monoborate of sodium and potassium is attacked by the carbonic acid of the atmosphere. The presence however of a little free caustic ammonia prevents this. In actual practice I dissolve caustic potash equivalent to 94 of potassic oxide, K O, in 150 to 200 parts of boiling water, then stir in 382 parts of borax and when this is dissolved 30 parts of the strongest caustic ammonia liquor. The solution is now allowed to crystallise. Part of the caustic potash may be replaced by its equivalent of caustic soda for cheapening purposes, and to somewhat reduce the deliquescence of the finished product. The monoborate of potassium, sodium and ammonium thus formed acts very strongly as an antiseptic, and to a certain extent as a deodorizer, thus superseding Condyl's fluid and carbolic acid, which are much less convenient for use. The object of putting potash into the mixture is that without potash it is not sufficiently soluble, but the amount of potash must not be too great or it will cause deliquescence. The advantage of adding the ammonia is that the latter prevents the monoborate of potash and soda from absorbing carbonic acid from the air.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. As an improved antiseptic or detergent the monoborate of potassium or sodium or a mixture of these monoborates with or without monoborate of ammonium.

Dated this 24th day of August 1901.

W. P. THOMPSON & Co.
Patent Agents of London and Liverpool.

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